

From: [Michael Stephenson](#)
To: [Jump, Christine](#)
Cc: [SMITH, MARTIN L](#)
Subject: IRM Workplan Response to Comments for Building J
Date: Monday, May 05, 2014 10:19:48 AM
Attachments: [RTC Letter for Bldg J.docx](#)
[Table 1 - IAOs.pdf](#)
[Figure X - Sump Locations.pdf](#)
[Soil Pest Herb PCB Table.pdf](#)

Hello Chris,

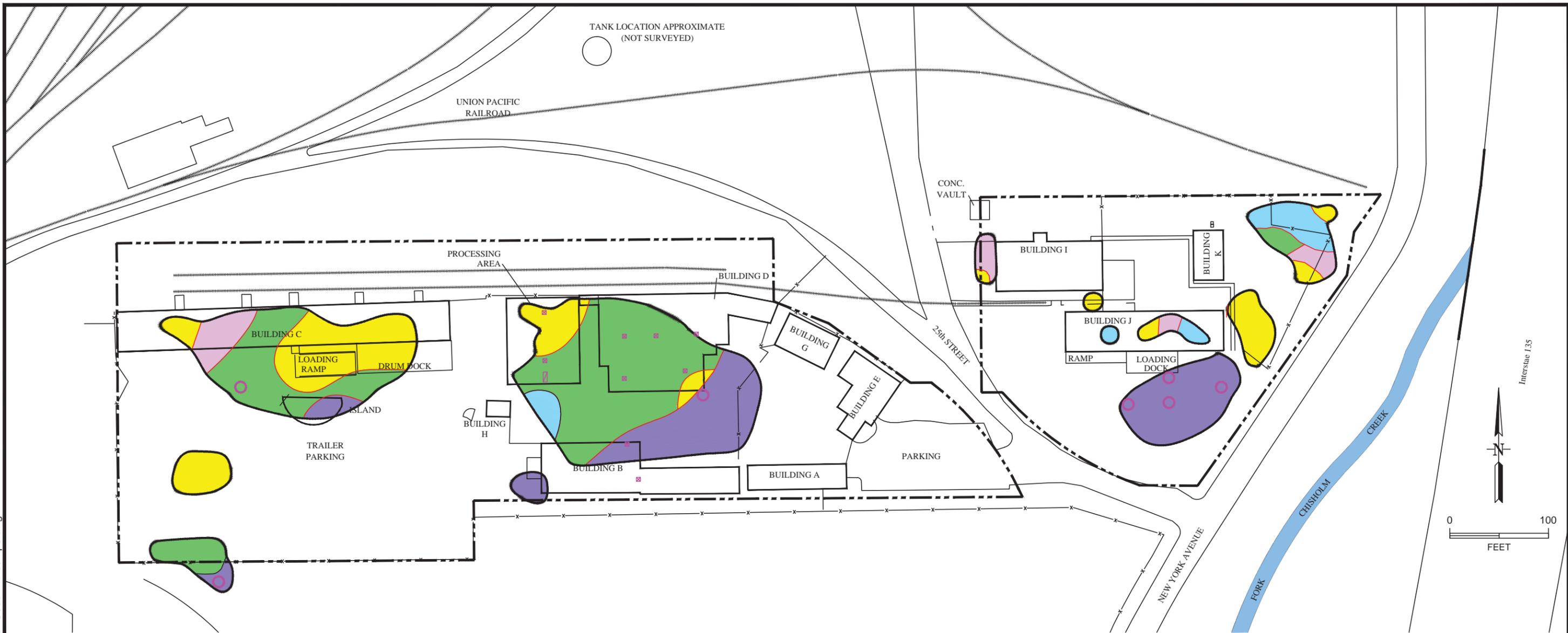
As we discussed last week, attached please find our response to EPA comments as they pertain to near term activities inside and north of Building J and to the west of Building I. As we discussed, we are in dire need of some form of approval (conditional or otherwise) to satisfy Shawn Maloney at the City of Wichita who will be issuing the relevant permits to start work.

I am sending this response as a draft in hopes that you and I can work through any changes you'd like today in hopes that you can send an approval email later today once we have everything addressed to your satisfaction. As I mentioned last week, the balance of your comments will be addressed prior to beginning work in other areas of the Site, and we are only seeking your approval to begin remediation in Building J, north of Building J and to the West of Building I.

Thanks for your help, and please call me as soon as you have reviewed this response so we can discuss.

Mike Stephenson
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LEGEND

- SUMP LOCATION
- RAILROAD TRACKS
- x- FENCE
- - - FACILITY BOUNDARY (NOT SURVEYED)
- * WELL NOT SURVEYED, LOCATION APPROXIMATE

DEPTHS AT WHICH KDHE STANDARDS ARE EXCEEDED

- 0-5' DEPTH
- 0-10' DEPTH
- 0-15' DEPTH
- 5-10' DEPTH
- 10-15' DEPTH
- 10-20' DEPTH
- TOTAL EXTENT OF ORGANIC COMPOUNDS

DRAFT

BY	DATE
DRAWN FR	4/9/14
CHECKED	
REVISED	
APPROVED	
APPROVED	
APPROVED	



Cameron-Cole
 5777 CENTRAL AVENUE, SUITE 200
 BOULDER, COLORADO 80301
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FIGURE X

**SUMP LOCATIONS
 CLEAN HARBORS KANSAS, LLC**

SCALE: AS SHOWN	PROJECT: 1808
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Ms. Christine R. Jump L.G.
U.S. EPA Region 7
Waste Remediation and Permitting Branch
11201 Renner Boulevard
Lenexa, KS 66219

May 2, 2014

SUBJECT: RESPONSE TO COMMENTS ON DRAFT RCRA SOIL INTERIM REMEDIAL MEASURE WORK PLAN, CLEAN HARBORS WICHITA FACILITY, 2549 NEW YORK AVE, WICHITA KANSAS (RCRA ID # KSD007246846)

Dear Ms. Jump:

Thank you for your comment letter received via email on April 4, 2014 on the above referenced document. As we discussed, Clean Harbors is interested in beginning corrective action work on the eastern portion of the property in the near term, specifically Building J, the area north of Building J and the area west of Building I. Pursuant to this goal, Clean Harbors is providing the following responses to your comments which pertain to these areas of the Site that are planned to undergo corrective action. A complete response to your comments addressing the entirety of the Site will be submitted at a future date.

EPAs specific comments and Clean Harbors responses are provided below.

- 1. Section 1.0:** *The purpose, and benefit of the proposed soil interim remedial measure is not stated. It is EPA's understanding that the purpose of this IRM is to remove an ongoing source of contamination to ground water under the facility.*

CH Response: The purpose of this IRM is to remove a potential ongoing source of contamination to groundwater and to reduce the potential risks associated with human exposures to impacted soil at the Site.

- 2. Section 1.1, page 2, 2nd paragraph:** *This paragraph indicates that Wichita ordinance No. 43-156 does not allow ground water use within the NIC site. Please note that the ordinance only restricts "personal use" of ground water in contaminated areas.*

CH Response: The distinction between the wording used in the DRAFT IRM Work Plan and the wording of the cited ordinance is noted. All future reports and correspondence referencing Wichita ordinance No. 43-156 will accurately reflect this distinction.

- 3. Section 1.3, page 3:** *The most recent version (March 2014) of the RSK tier 2 soil to groundwater protection values should be used for the interim action objectives (IAOs).*

CH Response: The March 2014 RSK tier 2 soil to groundwater protection values will be used as the IAOs for this interim action. Table 1 (attached) has been revised to reflect this change.

- 5. Section 2.1, page 5, 2nd paragraph:** *This paragraph states that soil impacts are the result of historic releases from solid waste management unit tanks, pipelines, and surface impoundments. This does not appear to be accurate, since the EPA is unaware of surface impoundments at this facility. Please evaluate this statement and revise as appropriate.*

CH Response: There are no surface impoundments at the CH Wichita Facility. Please consider this response a retraction of the statement indicating such in the DRAFT IRM Work Plan.

- 6. Section 3.1, page 11-12:** *It is the EPA's understanding that Figures 9 and 12 are not intended to be used for evaluating building closure activities because they do not reflect the data collected immediately beneath the concrete floors. Therefore, when submitting rinsate data and subsurface soil data for regulatory review and determination of disposal or re-use options for the concrete, please include a statement summarizing your interpretation as to whether the data indicates impacts to the concrete.*

CH Response: EPA's understanding is correct. Figures 9 and 12 are not intended to be used to evaluate near surface soil conditions underlying the concrete. Rinsate data submitted to EPA and KDHE will be transmitted with all available subfloor soil data and an interpretation as to how CH believes this data pertains to the re-use of the concrete.

- 7. Section 3.1, page 12, bullet #6:** *The closure and partial closure plans require sampling beneath floor cracks and sumps. If there are cracks in the floor of Building J that were not addressed to the KDHE's satisfaction by sampling to date, additional sampling or floor removal may be necessary in those areas. Please note, the closure plans require analysis for everything for which the facility is permitted. The proposed closure sampling was postponed due to the presence of VOCs above the IAOs. Therefore, based on the analytical sampling results presented in the draft IRM work plan, sampling for the full suite of compounds required by the closure plan has not been performed. Please propose a sampling plan to address these concerns (see also comment 12 below)*

A cost estimate previously prepared for the Wichita facility listed the following sumps at the facility: 5 sumps located in Building D; 2 sumps located in building B; 1 sump located in Building J; 1 sump located in Building I; and 3 sumps located in the Processing Area. The Analytical data table only indicates one sump area sampled to date, in building D. Please prepare and submit a figure locating these other sumps prior to demolishing the buildings. If these sumps are in areas not currently proposed for excavation, additional sampling will be necessary after the concrete in these areas is removed to determine if excavation is required. (this is not necessary for the sump in building I).

CH Response: Because Clean Harbors is rescinding its request to close Building J, collection of closure samples beneath building J associated with any cracks will not be performed at this time. Samples collected beneath Buildings B, D and J were collected for analysis of VOCs, SVOCs, metals, pesticides, herbicides and PCBs as specified in the RFI work plan. With the exception of the pesticide, herbicide and PCB results, the IRM workplan included soil results for all of these compounds. A table of pesticide, herbicide and PCB results is included as Table 2.

The attached Figure X depicts the location of all sumps present at the facility. As shown on the figure, all of the sumps present at the facility are located within the proposed excavation limits with the exception of the sump located in the center of Building B. Because soil in the vicinity of these sumps will be excavated during implementation of this IRM, no sampling beneath these sumps will be performed. Soil beneath the sump in the center of Building B will be sampled during the course of the IRM activities to determine if any evidence of a historic release is present.

9. Section 3.3, page 14: *State where soil will be taken for offsite treatment or what landfill(s) will be used for disposal of excavated soil. State how soil will be transported.*

CH Response: Soils designated for incineration (which includes only some soil from the west side of Building I) will be transported by truck to the Clean Harbors Nebraska facility in Kimball Nebraska. The remainder of the excavated soil will be transported by truck to the Clean Harbors Lone Mountain facility in Waynoka Oklahoma.

10. Section 3.5, page 15: *Imported backfill material must be sampled for total VOCs, SVOCs and metals. Results must be below the IAOs for the Site.*

CH Response: Imported backfill material will be sampled at a rate of 1 sample for every 500 cubic yards of soil in accordance with Kansas State regulations. These samples will be analyzed for VOCs (8260), SVOCs (8270) and metals (6010).

11. Section 4, Page 16: *Additional confirmation sampling will be necessary for confirmation that the soils remaining after excavation are below the IAOs. The following standards must be used to determine the minimum confirmation sampling allowed for the Soil IRM at the Clean Harbors Wichita Facility.*

· At least one Bottom sample collected per grid unit \leq 2500 square feet. Grid units $>$ 2,500 square feet must have at least 2 bottom samples collected.

· At least one side wall sample collected per 50 linear feet of horizontal side wall.

· At least one side wall sample collected per 5 linear feet of vertical side wall.

· Confirmation samples should be representatively distributed based on the dimensions above, and additional biased confirmation samples should be collected based on

staining, odors, changes in soil conditions, unusual excavation footprints, or other factors which may indicate the presence of contamination.

CH Response: The confirmation sampling will be performed in accordance with the specifications prescribed above.

12. Section 4, page 16: *There is no Sampling and Analysis plan (SAP) or Quality Assurance/Quality Control (QA/QC) plan and no reference to existing SAP or QA/QC plans for the collection and analysis of samples associated with this IRM. Necessary details include, but are not limited to, the sampling method and type of confirmation samples that will be collected, sample labeling protocol, and data quality objectives, such as the analytical methods that will be used, the compounds included in those methods and quantitation limits that will be reported, the number and type of QA/QC samples, and the name of the laboratory to which the samples will be submitted. If the samples will be collected and analyzed in accordance with a previously approved document for this site, please provide the reference to that document and discuss any task specific variations in detail. Please note, the SAP and QAPP for the closure plans require analysis of additional compounds not presented in the data results submitted with the IRM work plan.*

CH Response: The confirmation samples will be collected and analyzed consistent with the approved SAP and QAPP used for the RFI Phase IV investigation. The only potential change that could be implemented is to use a local laboratory (PACE analytical) for sample analysis. If this change is made, an addendum to the QAPP will be submitted to EPA.

14 Section 6, page 17 and Figure 13. *Please add collection and review of confirmation samples to each phase between excavation and restoration activities. EPA requests that the draft confirmation sample locations and initial results be submitted to the regulatory agencies for feedback prior to restoration; however, the EPA also understands that, at times, conditions may require backfilling and restoration prior to review/approval of the results by the EPA.*

CH Response: Where possible, Clean Harbors will transmit the locations of and results of confirmation samples to EPA for review and approval prior to restoration.

18 Figure 10: *Please specify the LDR standards on this figure in the legend.*

CH Response: The LDR standard for xylene is 30 parts per million. Some Soil in the area west of Building I contains concentrations exceeding this level.

19. Figure 13: *Please add an end date to the schedule for each task based upon the start date and duration. The EPA understands that these dates will require periodic revision through the IRM*

CH Response: Prior to beginning excavation work at the facility, a revised schedule will be submitted to EPA and this schedule will be updated as needed throughout the project. Due to uncertainties associated with scheduling of contractors, permitting and weather, CH believes it is problematic to provide detailed schedule information at this time.

20. Table 1: Update this table using the March 2014 KDHE Tier II RSK values.

CH Response: A revised Table 1 using the updated RSK values is attached.

21. Table 2: Revise the IAOs as necessary on this table and include page numbers.

CH Response: A revised Table 2 with the requested edits is attached.

As Clean Harbors is eager to begin corrective action work at the Facility and an EPA approval of this work is required to obtain the necessary permits from the City of Wichita, your prompt attention to this response to comment letter is very much appreciated. As stated previously, the remainder of the comments provided in your April 9, 2014 letter will be addressed under separate cover. At this time Clean Harbors is only seeking your approval to initiate interim remedial measures within Building J, in the area north of Building J, and the area west of Building I.

Should you have any questions or concerns regarding these comment responses, please do not hesitate to call for further discussion.

Sincerely,

Mike Stephenson
Senior Scientist
Cameron-Cole, LLC

Table 2
Soil Pesticide, Herbicide and PCB Results (ug/kg)
Clean Harbors Wichita
2549 New York Ave, Wichita

Boring	Depth	Date Sampled	2,4,5-T	2,4-D	2,4-Db	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	Alpha-Chlordane	beta-BHC	Chlordane (Technical)	Dalapon	delta-BHC	Dicamba	Dichlorpr op	Dieldrin	Dinoseb	Endosulfa n I	Endosulfa n II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	
KDHE Tier II Soil->GW (res)			3750	695	2710	31800	24100	24600	812	NA	NA	NA	135000	NA	NA	4520	NA	193	12200	125000	125000	NA	8040	NA	
RFI Phase IV Results																									
BC-1	0.5	10/17/13	<38	<380	<380	<3.9	<3.9	<3.9	<1.9	<1.9	<1.9	<1.9	NA	<1900	<1.9	<38	<380	<1.9	<950	<1.9	<1.9	<3.9	<3.9	<3.9	
BC-1	2	10/17/13	<40	<400	<400	<3.9	<3.9	<3.9	<2	<2	<2	<2	NA	<2000	<20	<40	<400	<2	<990	<2	<2	<3.9	<3.9	<3.9	
BC-2	0.5	10/17/13	<38	<380	<380	<3.9	<3.9	<3.9	<1.9	<1.9	<1.9	<1.9	NA	<1900	<1.9	<38	<380	<1.9	<1900	<1.9	<1.9	<3.9	<3.9	<3.9	
BC-2	2	10/17/13	<40	<400	<400	<4	<4	1 J	<2	<2	<2	<2	NA	<2000	<2	<40	<400	<2	<2000	<2	<2	<4	<4	<4	
BC-3	0.5	10/17/13	<38	<380	<380	<76	<76	<76	<38	<38	27.3 J	<38	NA	<1900	<38	<38	<380	<38	<950	<38	<38	<76	<76	<76	
BC-3	2	10/17/13	<79	<790	<790	<4	<4	<4	<2	<2	<2	<2	NA	<3900	<2	<79	<790	<2	<2000	<2	<2	<4	<4	<4	
BC-4	0.5	10/17/13	<38	<380	<380	<38	<38	<38	<19	<19	<19	<19	NA	<1900	<19	<38	<380	<19	<960	<19	<19	<38	<38	<38	
BC-4	2	10/17/13	<38	<380	<380	<3.8	<3.8	2.8 J	<1.9	<1.9	<1.9	<1.9	NA	<1900	<1.9	<38	<380	<1.9	<1900	<1.9	<1.9	2.7 J	<3.8	1.3 J	
DC-1	0.5	10/16/13	<81	<810	<810	<4	<4	<4	<2	<2	<2	<2	NA	<4000	<2	<81	<810	<2	<2000	<2	<2	<4	<4	<4	
DC-1	2	10/16/13	<85	<850	<850	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<4200	<2.1	<85	<850	<2.1	<2100	<2.1	<2.1	<4.2	<4.2	<4.2	
DC-10	0.5	10/09/13	<83	<830	<830	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<4200	<2.1	<83	<830	<2.1	<2100	<2.1	<2.1	<4.2	<4.2	<4.2	
DC-10	2	10/09/13	<32	<320	<320	<4.1	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<1600	<2.1	<32	<320	<2.1	<790	<2.1	<2.1	<4.1	<4.1	<4.1	
DC-11	0.5	10/09/13	<33	<330	<330	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<1600	<2	<33	<330	<2	<820	<2	<2	<4.1	<4.1	<4.1	
DC-11	2	10/09/13	<34	<340	<340	<4.3	<4.3	<4.3	<2.2	<2.2	<2.2	<2.2	NA	<1700	<2.2	<34	<340	<2.2	<850	<2.2	<2.2	<4.3	<4.3	<4.3	
DC-12	0.5	10/09/13	<41	<410	<410	<4.1	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<2000	<2.1	<41	<410	<2.1	<1000	<2.1	<2.1	<4.1	<4.1	<4.1	
DC-12	2	10/09/13	<41	<410	<410	<4.1	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<2100	<2.1	<41	<410	<2.1	<1000	<2.1	<2.1	<4.1	<4.1	<4.1	
DC-13	0.5	10/16/13	<86	<860	<860	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<4300	<21	<86	<860	<2.1	<2100	<2.1	<2.1	<4.2	<4.2	<4.2	
DC-13	2	10/16/13	<81	<810	<810	<4	<4	<4	<2	<2	<2	<2	NA	<4100	<2	<81	<810	<2	<2000	<2	<2	<4	<4	<4	
DC-14	0.5	10/09/13	<41	<410	<410	<4.1	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<2100	<2.1	<41	<410	<2.1	<1000	<2.1	<2.1	<4.1	<4.1	<4.1	
DC-14	2	10/09/13	<40	<400	<400	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<2000	<2	<40	<400	<2	<1000	<2	<2	<4.1	<4.1	<4.1	
DC-15	0.5	10/09/13	<39	<390	<390	<3.9	<3.9	<3.9	<2	<2	<2	<2	NA	<2000	<2	<39	<390	<2	<980	<2	<2	<3.9	<3.9	<3.9	
DC-15	2	10/09/13	<40	<400	<400	<4.1	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<2000	<2.1	<40	<400	<2.1	<1000	<2.1	<2.1	<4.1	<4.1	<4.1	
DC-16	0.5	10/16/13	<79	<790	<790	<4	<4	<4	<2	<2	<2	<2	NA	<4000	<20	<79	<790	<2	<2000	<2	<2	<4	<4	<4	
DC-16	2	10/16/13	<65	<650	<650	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<3200	<17	<65	<650	<1.7	<1600	<1.7	<1.7	<3.3	<3.3	<3.3	
DC-17	0.5	10/09/13	<42	<420	<420	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<2100	<2.1	<42	<420	<2.1	<1100	<2.1	<2.1	<4.2	<4.2	<4.2	
DC-17	2	10/09/13	<40	<400	<400	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<2000	<2.1	<40	<400	<2.1	<1000	<2.1	<2.1	<4.2	<4.2	<4.2	
DC-18	0.5	10/09/13	<44	<440	<440	<4.4	<4.4	<4.4	<2.2	<2.2	<2.2	<2.2	NA	<2200	<2.2	<44	<440	<2.2	<1100	<2.2	<2.2	<4.4	<4.4	<4.4	
DC-18	2	10/09/13	<42	<420	<420	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<2100	<2.1	<42	<420	<2.1	<1000	<2.1	<2.1	<4.2	<4.2	<4.2	
DC-19	0.5	10/09/13	<40	<400	<400	<20	<20	<20	<10	<10	<10	<10	NA	<2000	<10	<40	<400	<10	<990	<10	<10	<20	<20	<20	
DC-19	2	10/09/13	<41	<410	<410	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<2100	<2	<41	<410	<2	<1000	<2	<2	<4.1	<4.1	<4.1	
DC-2	0.5	10/10/13	<42	<420	<420	<4.3	<4.3	<4.3	<2.1	<2.1	<2.1	<2.1	NA	<2100	<2.1	<42	<420	<2.1	<1000	<2.1	<2.1	<4.3	<4.3	<4.3	
DC-2	2	10/10/13	<41	<410	<410	<4.1	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<2000	<2.1	<41	<410	<2.1	<1000	<2.1	<2.1	<4.1	<4.1	<4.1	
DC-20	0.5	10/09/13	<41	<410	<410	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<2000	<2	<41	<410	<2	<1000	<2	<2	<4.1	<4.1	<4.1	
DC-20	2	10/09/13	<42	<420	<420	<4.3	<4.3	<4.3	<2.2	<2.2	<2.2	<2.2	NA	<2100	<2.2	<42	<420	<2.2	<1100	<2.2	<2.2	<4.3	<4.3	<4.3	
DC-21	0.5	10/16/13	<87	<870	<870	<4.3	<4.3	<4.3	<2.2	<2.2	<2.2	<2.2	NA	<4400	<2.2	<87	<870	<2.2	<2200	<2.2	<2.2	<4.3	<4.3	<4.3	
DC-21	2	10/16/13	<79	<790	<790	<3.9	<3.9	<3.9	<1.9	<1.9	<1.9	<1.9	NA	<4000	<1.9	<79	<790	<1.9	<2000	<1.9	<1.9	<3.9	<3.9	<3.9	
DC-22	0.5	10/16/13	<180	<1800	<1800	<36	4.6 J	<36	<18	<18	<18	<18	NA	<9200	<18	<180	<1800	<18	<4600	<18	<18	<36	<36	<36	
DC-22	2	10/16/13	<85	<850	<850	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<4200	<2.1	<85	<850	<2.1	<2100	<2.1	<2.1	<4.2	<4.2	<4.2	
DC-23	0.5	10/16/13	<83	<830	<830	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<4200	<2.1	<83	<830	<2.1	<2100	<2.1	<2.1	<4.2	<4.2	<4.2	
DC-23	2	10/16/13	<65	<650	<650	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<3300	<1.7	<65	<650	<1.7	<1600	<1.7	<1.7	<3.3	<3.3	<3.3	
DC-24	0.5	10/16/13	<40	<400	<400	<4	<4	<4	<2	<2	<2	<2	NA	<2000	<20	<40	<400	<2	<990	<2	<2	<4	<4	<4	
DC-24	2	10/16/13	30.4 J	<410	<410	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<2000	<20	<41	<410	<2	<1000	<2	<2	<4.1	<4.1	<4.1	
DC-25	0.5	10/16/13	<33	<330	<330	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<1600	<17	<33	<330	<1.7	<820	<1.7	<1.7	<3.3	<3.3	<3.3	
DC-25	2	10/16/13	<41	<410	<410	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<2100	<20	<41									

Table 2
Soil Pesticide, Herbicide and PCB Results (ug/kg)
Clean Harbors Wichita
2549 New York Ave, Wichita

Boring	Depth	Date Sampled	2,4,5-T	2,4-D	2,4-Db	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	Alpha-Chlordane	beta-BHC	Chlordane (Technical)	Dalapon	delta-BHC	Dicamba	Dichloropr op	Dieldrin	Dinoseb	Endosulfa n I	Endosulfa n II	Endosulfan Sulfate	Endrin	Endrin Aldehyde
KDHE Tier II Soil->GW (res)			3750	695	2710	31800	24100	24600	812	NA	NA	NA	135000	NA	NA	4520	NA	193	12200	125000	125000	NA	8040	NA
DC-26	2	10/16/13	<33	<330	<330	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<1700	<17	<33	<330	<1.7	<830	<1.7	<1.7	<3.3	<3.3	<3.3
DC-27	0.5	10/16/13	<39	<390	<390	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<2000	<20	<39	<390	<2	<990	<2	<2	<4.1	<4.1	<4.1
DC-27	2	10/16/13	26.8 J	<430	<430	<4.3	<4.3	<4.3	<2.1	<2.1	<2.1	<2.1	NA	<2100	<21	<43	<430	<2.1	<1100	<2.1	<2.1	<4.3	<4.3	<4.3
DC-27	5	10/16/13	<40	<400	<400	<4	<4	<4	<2	<2	<2	<2	NA	<2000	<20	<40	<400	<2	<1000	<2	<2	<4	<4	<4
DC-28	0.5	10/16/13	<41	<410	<410	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<2100	<20	<41	<410	<2	<1000	<2	<2	<4.1	<4.1	<4.1
DC-28	2	10/16/13	<34	<340	<340	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<1700	<17	<34	<340	<1.7	<840	<1.7	<1.7	<3.3	<3.3	<3.3
DC-3	0.5	10/16/13	<200	<2000	<2000	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<10000	<2.1	<200	<2000	<2.1	<5100	<2.1	<2.1	<4.2	<4.2	<4.2
DC-3	2	10/16/13	<160	<1600	<1600	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<8200	<1.7	<160	<1600	<1.7	<4100	<1.7	<1.7	<3.3	<3.3	<3.3
DC-4	0.5	10/10/13	<43	<430	<430	<4.3	<4.3	<4.3	<2.1	<2.1	<2.1	<2.1	NA	<2100	<2.1	<43	<430	<2.1	<1100	<2.1	<2.1	<4.3	<4.3	<4.3
DC-4	2	10/10/13	<42	<420	<420	<4.3	<4.3	<4.3	<2.1	<2.1	<2.1	<2.1	NA	<2100	<2.1	<42	<420	<2.1	<1000	<2.1	<2.1	<4.3	<4.3	<4.3
DC-5	0.5	10/16/13	<42	<420	<420	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<2100	<21	<42	<420	<2.1	<1100	<2.1	<2.1	<4.2	<4.2	<4.2
DC-5	2	10/16/13	<41	<410	<410	<4.1	<4.1	<4.1	<2	<2	<2	<2	NA	<2100	<20	<41	<410	<2	<1000	<2	<2	<4.1	<4.1	<4.1
DC-6	0.5	10/16/13	<87	<870	<870	<4.3	<4.3	<4.3	<2.1	<2.1	<2.1	<2.1	NA	<4300	<2.1	<87	<870	<2.1	<2200	<2.1	<2.1	<4.3	<4.3	<4.3
DC-6	2	10/16/13	<82	<820	<820	<4.1	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<4100	<2.1	<82	<820	<2.1	<2100	<2.1	<2.1	<4.1	<4.1	<4.1
DC-7	0.5	10/16/13	<42	<420	<420	<4.1	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<2100	<21	<42	<420	<2.1	<1000	<2.1	<2.1	<4.1	<4.1	<4.1
DC-7	2	10/16/13	<32	<320	<320	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1600	<17	<32	<320	<1.7	<810	<1.7	<1.7	<3.4	<3.4	<3.4
DC-8	0.5	10/09/13	<33	<330	<330	<4.3	<4.3	<4.3	<2.1	<2.1	<2.1	<2.1	NA	<1600	<2.1	<33	<330	<2.1	<820	<2.1	<2.1	<4.3	<4.3	<4.3
DC-8	2	10/09/13	<36	<360	<360	<4.4	<4.4	<4.4	<2.2	<2.2	<2.2	<2.2	NA	<1800	<2.2	<36	<360	<2.2	<890	<2.2	<2.2	<4.4	<4.4	<4.4
DC-9	0.5	10/09/13	<210	<2100	<2100	0.69 J	<4.1	<4.1	<2.1	<2.1	<2.1	<2.1	NA	<10000	<2.1	<210	<2100	<2.1	<5100	<2.1	<2.1	<4.1	<4.1	<4.1
DC-9	2	10/09/13	<33	<330	<330	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<1700	<2.1	<33	<330	<2.1	<830	<2.1	<2.1	<4.2	<4.2	<4.2
DC-SUMP	0.5	10/17/13	<41	<410	<410	<4	<4	1.1 J	<2	<2	1.3 J	<2	NA	<2000	<2	<41	<410	0.51 J	<2000	<2	<2	<4	<4	<4
DC-SUMP	2	10/17/13	<39	<390	<390	<3.9	<3.9	<3.9	<2	<2	<2	<2	NA	<1900	<2	<39	<390	<2	<1900	<2	<2	<3.9	<3.9	<3.9
JC-1	0.5	10/18/13	8.6 J	<330	<330	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<1600	<1.7	<33	<330	<1.7	<820	<1.7	<1.7	<3.3	<3.3	<3.3
JC-1	2	10/18/13	<34	<340	<340	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	520 J	<1.7	<34	<340	<1.7	<840	<1.7	<1.7	<3.4	<3.4	<3.4
JC-10	0.5	10/18/13	10 J	<340	<340	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<34	<340	<1.7	<840	<1.7	<1.7	<3.4	<3.4	<3.4
JC-10	2	10/18/13	15.4 J	<330	<330	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<33	<330	<1.7	<830	<1.7	<1.7	<3.4	<3.4	<3.4
JC-11	0.5	10/18/13	17.3 J	<340	<340	<3.3	<3.3	<3.3	<1.6	<1.6	<1.6	<1.6	NA	<1700	<1.6	<34	<340	<1.6	<840	<1.6	<1.6	<3.3	<3.3	<3.3
JC-11	2	10/18/13	15.1 J	<340	<340	<3.3	<3.3	<3.3	<1.6	<1.6	<1.6	<1.6	NA	<1700	<1.6	<34	<340	<1.6	<850	<1.6	<1.6	<3.3	<3.3	<3.3
JC-12	0.5	10/18/13	<33	<330	<330	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1600	<1.7	<33	<330	<1.7	<820	<1.7	<1.7	<3.4	<3.4	<3.4
JC-12	2	10/18/13	<34	<340	<340	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	521 J	<1.7	<34	<340	<1.7	<840	<1.7	<1.7	<3.4	<3.4	<3.4
JC-13	0.5	10/18/13	<34	<340	<340	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<34	<340	<1.7	<840	<1.7	<1.7	<3.4	<3.4	<3.4
JC-13	2	10/18/13	15.5 J	<340	<340	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<34	<340	<1.7	<850	<1.7	<1.7	<3.3	<3.3	<3.3
JC-14	0.5	10/18/13	NA	NA	NA	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	NA	<1.7	NA	NA	<1.7	NA	<1.7	<1.7	<3.4	<3.4	<3.4
JC-14	2	10/18/13	<49	<490	<490	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<2500	<1.7	<49	<490	<1.7	<1200	<1.7	<1.7	<3.4	<3.4	<3.4
JC-2	0.5	10/18/13	<33	<330	<330	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	480 J	<1.7	<33	<330	<1.7	<820	<1.7	<1.7	<3.3	<3.3	<3.3
JC-2	2	10/18/13	<35	<350	<350	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<35	<350	<1.7	<870	<1.7	<1.7	<3.4	<3.4	<3.4
JC-3	0.5	10/18/13	8 J	<330	<330	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1600	<1.7	<33	<330	<1.7	<820	<1.7	<1.7	<3.4	<3.4	<3.4
JC-3	2	10/18/13	<33	<330	<330	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	710 J	<1.7	<33	<330	<1.7	<820	<1.7	<1.7	<3.4	<3.4	<3.4
JC-4	0.5	10/18/13	12.6 J	<340	<340	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<34	<340	<1.7	<840	<1.7	<1.7	<3.4	<3.4	<3.4
JC-4	2	10/18/13	16.1 J	<340	<340	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<34	<340	<1.7	<850	<1.7	<1.7	<3.4	<3.4	<3.4
JC-5	0.5	10/18/13	<41	<410	<410	<4.2	<4.2	<4.2	<2.1	<2.1	<2.1	<2.1	NA	<2100	<2.1	<41	<410	<2.1	<1000	<2.1	<2.1	<4.2	<4.2	<4.2
JC-5	2	10/18/13	<34	<340	<340	<3.5	<3.5	<3.5	<1.8	<1.8	<1.8	<1.8	NA	<1700	<1.8	<34	<340	<1.8	<850	<1.8	<1.8	<3.5	<3.5	<3.5
JC-5	5	10/18/13	<41	<410	<410	<4	<4	<4	<2	<2	<2	<2	NA	<2100	<2	<41	<410	<2	<1000	<2	<2	<4	<4	<4
JC-6	0.5	10/18/13	17.3 J	<330	<330	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<33	<330	<1.7	<830	<1.7	<1.7	<3.3	<3.3	<3.3
JC-6	2	10/18/13	16.4 J	<340	<340	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<34	<340	<1.7	<840	<1.7	<1.7	<3.3	<3.3	<3.3
JC-7	0.5	10/18/13	14.2 J	<330	<330	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<33	<330	<1.7	<830	<1.7	<1.7	<3.4	<3.4	<3.4

Table 2
Soil Pesticide, Herbicide and PCB Results (ug/kg)
Clean Harbors Wichita
2549 New York Ave, Wichita

Boring	Depth	Date Sampled	2,4,5-T	2,4-D	2,4-Db	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	Alpha-Chlordane	beta-BHC	Chlordane (Technical)	Dalapon	delta-BHC	Dicamba	Dichlorpr op	Dieldrin	Dinoseb	Endosulfa n I	Endosulfa n II	Endosulfan Sulfate	Endrin	Endrin Aldehyde
KDHE Tier II Soil->GW (res)			3750	695	2710	31800	24100	24600	812	NA	NA	NA	135000	NA	NA	4520	NA	193	12200	125000	125000	NA	8040	NA
JC-7	2	10/18/13	<34	<340	<340	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<34	<340	<1.7	<850	<1.7	<1.7	<3.4	<3.4	<3.4
JC-8	0.5	10/18/13	<33	<330	<330	<3.3	<3.3	<3.3	<1.7	<1.7	<1.7	<1.7	NA	502 J	<1.7	<33	<330	<1.7	<820	<1.7	<1.7	<3.3	<3.3	<3.3
JC-8	2	10/18/13	<34	<340	<340	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	640 J	<1.7	<34	<340	<1.7	<840	<1.7	<1.7	<3.4	<3.4	<3.4
JC-9	0.5	10/18/13	18.4 J	<330	<330	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1600	<1.7	<33	<330	<1.7	<820	<1.7	<1.7	<3.4	<3.4	<3.4
JC-9	2	10/18/13	8.2 J	<350	<350	<3.4	<3.4	<3.4	<1.7	<1.7	<1.7	<1.7	NA	<1700	<1.7	<35	<350	<1.7	<870	<1.7	<1.7	<3.4	<3.4	<3.4
Historic Results																								
B-1	0.3	12/01/99	NA	NA	NA	<17	<17	<17	<17	<17	NA	<17	<170	NA	<17	NA	NA	<17	NA	<17	<17	<17	<17	<17
B-12	3	12/02/99	NA	NA	NA	<17	<17	<17	<17	<17	NA	<17	<170	NA	<17	NA	NA	<17	NA	<17	<17	<17	<17	<17
B-13	3	12/02/99	NA	NA	NA	<17	<17	<17	<17	<17	NA	<17	<170	NA	<17	NA	NA	<17	NA	<17	<17	<17	<17	<17
B-30	0.3	12/01/99	NA	NA	NA	<17	17	<17	<17	<17	NA	<17	<170	NA	<17	NA	NA	<17	NA	<17	<17	<17	<17	<17
B-32	3	11/30/99	NA	NA	NA	<17	<17	<17	<17	<17	NA	<17	<170	NA	<17	NA	NA	<17	NA	<17	<17	<17	<17	<17
B-33	3	11/30/99	NA	NA	NA	<17	<17	<17	<17	<17	NA	<17	<170	NA	<17	NA	NA	<17	NA	<17	<17	<17	<17	<17
B-34	3	11/30/99	NA	NA	NA	<17	<17	<17	<17	<17	NA	<17	<170	NA	<17	NA	NA	<17	NA	<17	<17	<17	<17	<17

Notes:

Interim Action Objective - KDHE Tier II Soil to Groundwater (residential) value

NA - Not Analyzed

J - Estimated value below laboratory reporting limit

Table 2
Soil Pesticide, Herbicide and PCB Results (ug/kg)
Clean Harbors Wichita
2549 New York Ave, Wichita

Boring	Depth	Date Sampled	Endrin Ketone	gamma- BHC (Lindane)	Gamma- Chlordane	Heptachlor r Epoxide	Mcpa	Mcpp	Methox ychlor	Pentachlor ophenol	Silvex (2,4,5-TP)	Toxaphe ne	Pcb-1016	Pcb-1221	Pcb- 1232	Pcb- 1242	Pcb- 1248	Pcb- 1254	Pcb-1260
KDHE Tier II Soil->GW (res)			NA	113	NA	3300	405	NA	NA	215000	996	1950	46300	NA	NA	NA	NA	NA	NA
JC-7	2	10/18/13	<3.4	<1.7	<1.7	<1.7	<1.7	<34000	<34000	<3.4	<34	<34	<84	<17	<17	<17	<17	<17	<17
JC-8	0.5	10/18/13	<3.3	<1.7	<1.7	<1.7	<1.7	<33000	<33000	<3.3	<33	<33	<83	<17	<17	<17	<17	<17	<17
JC-8	2	10/18/13	<3.4	<1.7	<1.7	<1.7	<1.7	<34000	<34000	<3.4	<34	<34	<85	<17	<17	<17	<17	<17	<17
JC-9	0.5	10/18/13	<3.4	<1.7	<1.7	<1.7	<1.7	<33000	<33000	<3.4	<33	<33	<84	<17	<17	<17	<17	<17	<17
JC-9	2	10/18/13	<3.4	<1.7	<1.7	<1.7	<1.7	<35000	<35000	<3.4	<35	<35	<84	<17	<17	<17	<17	<17	<17
Historic Results																			
B-1	0.3	12/01/99	NA	<17	NA	<17	<17	NA	NA	<33	NA	NA	<670	NA	NA	NA	NA	NA	NA
B-12	3	12/02/99	NA	<17	NA	<17	<17	NA	NA	<33	NA	NA	<670	NA	NA	NA	NA	NA	NA
B-13	3	12/02/99	NA	<17	NA	<17	<17	NA	NA	<33	NA	NA	<670	NA	NA	NA	NA	NA	NA
B-30	0.3	12/01/99	NA	<17	NA	<17	<17	NA	NA	<33	NA	NA	<670	NA	NA	NA	NA	NA	NA
B-32	3	11/30/99	NA	<17	NA	<17	<17	NA	NA	<33	NA	NA	<670	NA	NA	NA	NA	NA	NA
B-33	3	11/30/99	NA	<17	NA	<17	<17	NA	NA	<33	NA	NA	<670	NA	NA	NA	NA	NA	NA
B-34	3	11/30/99	NA	<17	NA	<17	<17	NA	NA	<33	NA	NA	<670	NA	NA	NA	NA	NA	NA

Notes:

Interim Action Objective - KDHE Tier II Soil t
 NA - Not Analyzed
 J - Estimated value below laboratory reporti

TABLE 1
Soil Interim Action Objectives (IAOs)
Clean Harbors (Wichita) Facility

Chemical of Concern	Interim Action Objective mg/kg
1,1,1-Trichloroethane	2.8
1,1,2,2-Tetrachloroethane	0.016
1,1-Dichloroethane	0.269
1,2,4-Trimethylbenzene	1.07
1,3,5-Trimethylbenzene	5.51
Chlorobenzene	5.1
cis-1,2-Dichloroethene	0.855
Ethylbenzene	65.6
Isopropylbenzene	65.1
m-Xylene & p-Xylene	809
n-Butylbenzene	50.9
n-Propylbenzene	110
Naphthalene	0.349
o-Xylene	809
p-Isopropyltoluene	NA
sec-Butylbenzene	82.7
tert-Butylbenzene	NA
Tetrachloroethene	0.121
Toluene	51.2
trans-1,2-Dichloroethene	1.22
Trichloroethene	0.0842
Vinyl Chloride	0.0205
1,1-Dichloroethene	0.0859
1,4-Dioxane	0.0384
Arsenic	63.2
Chromium	111
Lead	1,000

Notes:

IAO - Interim Action Objective.

VOC and SVOC IAOs are the KDHE Tier II residential soil to groundwater screening levels, KDHE RSK Manual 5th Edition (2010)

Metal IAOs are the direct contact with industrial soil values from the KDHE RSK Manual 5th Edition (2010)